Amendment to the Claims:

Claims 1-27 (Canceled)

28. (Currently amended) A transgenic mouse whose genome comprises a null allele in the endogenous PTP36 ~~allele~~gene~~, wherein said null allele comprises exogenous DNA~~.

29. (Currently amended) The transgenic mouse of claim ~~53~~54, wherein ~~said~~ the female mouse exhibits, relative to a wild-type control mouse, a uterine abnormality comprising uterine dilation.

30. (Currently amended) The transgenic mouse of claim ~~53~~54, wherein the female ~~said~~ mouse exhibits, relative to a wild-type control mouse, a uterine abnormality comprising keratin in the uterine horns.

31. (Currently amended) The transgenic mouse of claim ~~53~~54, wherein the female ~~said~~ mouse exhibits, relative to a wild-type control mouse, a uterine abnormality comprising keratin in the uterine lumen.

32. (Currently amended) The transgenic mouse of claim ~~53~~54, wherein said mouse exhibits, relative to a wild-type control mouse, increased organ weight comprising at least one of the following: increased liver weight, increased spleen weight, increased thymus weight increased liver weight relative to body weight, and increased spleen weight relative to body weight.

Claims 33-36 (Canceled)

37. (Previously presented) A cell or tissue isolated from the transgenic mouse of claim 28.

Claims 38-46 (Canceled)

47. (Previously presented) A method of producing the transgenic mouse of claim 28, the method comprising:

    a. introducing a targeting construct capable of disrupting an endogenous PTP36 allele into a mouse embryonic stem cell;
    b. selecting for the mouse embryonic stem cell that has undergone homologous recombination;
    c. introducing the mouse embryonic stem cell selected for in step (b) into a blastocyst;
    d. implanting the resulting blastocyst into a pseudopregnant mouse, wherein the resultant mouse gives birth to a chimeric mouse; and
    e. breeding the chimeric mouse to produce the transgenic mouse.

Claims 48-52 (Canceled)

53. (Previously presented) The transgenic mouse of claim 28 wherein the mouse is heterozygous for said null allele.

54. (Previously presented) The transgenic mouse of claim 28 wherein the mouse is homozygous for said null allele.

55. (Currently amended) The transgenic mouse of claim 28 wherein said ~~exogenous DNA~~null allele comprises a gene encoding a selection marker.

56. (Currently amended) The transgenic mouse of claim 55 wherein said gene is a neomycin ~~resistant~~ resistance gene.

57. (Currently amended) The transgenic mouse of claim ~~28~~ 56 wherein said ~~exogenous DNA~~null allele further comprises a lacZ gene ~~comprises a gene encoding a visible marker~~.

58. (Canceled)

59. (New) The transgenic mouse of claim 54 wherein the female mouse lacks mammary gland tissue.

60. (New) The transgenic mouse of claim 59 wherein said mouse further demonstrates cervical relaxation, relative to a wild-type control mouse.

61. (New) The transgenic mouse of claim 60 wherein said mouse comprises a hormonal imbalance, relative to a wild-type control mouse.

62. (New) The transgenic mouse of claim 61 wherein said phenotypes are consistent with androgenization.

63. (New) The transgenic mouse of claim 54 wherein the female mouse exhibits increased anogenital distance, relative to a wild-type control mouse.